

This document provides pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal permit. The discharge results from the operation of a 0.030 MGD wastewater treatment plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia WQS and updating permit language, as applicable. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260-00 et seq.

- |                                       |  |                   |              |
|---------------------------------------|--|-------------------|--------------|
| 1. Facility Name and Mailing Address: | Glenwood MHC, LLC<br>10006 Hammock Bend<br>Chapel Hill, NC 27517 | SIC Code:         | 4952 WWTP    |
| Facility Location:                    | 9755 Glenwood Drive<br>Fredericksburg, VA 22408                  | County:           | Spotsylvania |
| Facility Contact Name:                | Matthew Raynor   | Telephone Number: | 919-960-5739 |
2. Permit No.: VA0068934      Expiration Date: 27 February 2011
- Other VPDES Permits: Not Applicable
- Other Permits: Not Applicable
- E2/E3/E4 Status: Not Applicable
- |                        |  |                   |              |
|------------------------|--|-------------------|--------------|
| 3. Owner Name:         | Glenwood MHC, LLC                        |                   |              |
| Owner Contact / Title: | Matthew Raynor<br>Environmental Director | Telephone Number: | 919-960-5739 |
4. Application Complete Date: 31 August 2010
- |                           |                             |                |                  |
|---------------------------|-----------------------------|----------------|------------------|
| Permit Drafted By:        | Douglas Frasier             | Date Drafted:  | 5 October 2010   |
| Draft Permit Reviewed By: | Alison Thompson             | Date Reviewed: | 14 October 2010  |
|                           | Bryant Thomas               | Date Reviewed: | 3 January 2011   |
| Public Comment Period:    | Start Date: 12 January 2011 | End Date:      | 11 February 2011 |
5. Receiving Waters Information: See **Attachment 1** for the Flow Frequency Determination.
- |                           |                             |                     |                       |
|---------------------------|-----------------------------|---------------------|-----------------------|
| Receiving Stream Name:    | Massaponax Creek, UT        | Stream Code:        | XDB                   |
| Drainage Area at Outfall: | 0.13 square miles*          | River Mile:         | 0.40                  |
| Stream Basin:             | Rappahannock River          | Subbasin:           | None                  |
| Section:                  | 4                           | Stream Class:       | III                   |
| Special Standards:        | None                        | Waterbody ID:       | VAN-E20R              |
| 7Q10 Low Flow:            | 0.0 MGD                     | 7Q10 High Flow:     | 0.0 MGD               |
| 1Q10 Low Flow:            | 0.0 MGD                     | 1Q10 High Flow:     | 0.0 MGD               |
| Harmonic Mean Flow:       | 0.0 MGD                     | 30Q5 Flow:          | 0.0 MGD               |
| 303(d) Listed:            | No – downstream impairments | 30Q10 Flow:         | 0.0 MGD               |
| TMDL Approved:            | Yes – downstream            | Date TMDL Approved: | 5 May 2008 – bacteria |
- \*Updated from planning memo.
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:
- |   |   |
|---|---|
| <input checked="" type="checkbox"/> State Water Control Law | <input type="checkbox"/> EPA Guidelines                     |
| <input checked="" type="checkbox"/> Clean Water Act         | <input checked="" type="checkbox"/> Water Quality Standards |
| <input checked="" type="checkbox"/> VPDES Permit Regulation | <input type="checkbox"/> Other                              |
| <input checked="" type="checkbox"/> EPA NPDES Regulation    |   |
7. Licensed Operator Requirements: Class IV
8. Reliability Class: Class II

**9. Permit Characterization:**

<input checked="" type="checkbox"/> Private	<input checked="" type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input type="checkbox"/> Toxics Monitoring Program Required	<input type="checkbox"/> Interim Limits in Permit
<input type="checkbox"/> POTW	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input checked="" type="checkbox"/> TMDL		

**10. Wastewater Sources and Treatment Description:**

Influent flows via gravity to the headworks of the sewage treatment plant. Primary treatment at the headworks consists of solids removal through a manual barscreen.

Flow then enters into an extended aeration basin equipped with diffusers for nitrification, continues on to the clarifier, passes a bar stop to catch any floating material and then through a V-notch weir (point of flow measurement). Disinfection occurs in the chlorination tank where a liquid solution of Sodium Hypochlorite is metered prior to the chlorine contact tank. Dechlorination is accomplished via a tablet feeder system. After dechlorination, the effluent is reaerated prior to discharge into an unnamed tributary (UT) of Massaponax Creek.

The return activated sludge (RAS) is pumped from the clarifier to the extended aeration basin. Waste activated sludge (WAS) is pumped to the digester (holding tank) as needed.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1 OUTFALL DESCRIPTION				
Number	Discharge Sources	Treatment	Design Flow	Latitude / Longitude
001	Domestic Wastewater	See Item 10 above.	0.030 MGD	38° 13' 45" / 77° 29' 49"
See <b>Attachment 3</b> for Guinea 169B topographic map.				

**11. Sludge Treatment and Disposal Methods:**

There is no treatment at this facility; storage only. Sludge is pumped from the digester/holding tank and hauled to the Massaponax Wastewater Treatment Facility (VA0025658) as needed for final treatment and disposal.

**12. Discharges and Monitoring Stations Located within Waterbody VAN-E20R:**

TABLE 2 DISCHARGES & MONITORING STATIONS			
ID / Permit Number	Facility Name	Type	Receiving Stream
3-HAL001.44	DEQ Monitoring Station		Hazel Run
VA0090468	Culpeper Wood Preservers – Ruffin Creek	Stormwater Industrial Individual Permits	Ruffins Pond
VA0029785	Quarles Petroleum – Fredericksburg		Deep Run, UT
VA0067326	The Shockey Precast Group		Massaponax Creek, UT
VAG110107	Old Castle Precast Incorporated	Concrete General Permits	Massaponax Creek, UT
VAG110200	The Shockey Precast Incorporated		Massaponax Creek
VAG110098	Fredericksburg Concrete		Ruffin Pond, UT

TABLE 2 (continued)			
ID / Permit Number	Facility Name	Type	Receiving Stream
3-MAP002.61	DEQ Monitoring Station		Massaponax Creek
VAR051572	Automatic Rolls of Virginia	Stormwater Industrial General Permits	Massaponax Creek, UT
VAR050897	All Foreign Used Auto Parts Inc.		Falls Run, UT
VAR051832	Summit Recycling		Hazel Run, UT
VAR050853	Norfleet Products Incorporated		Hazel Run
VAR051918	Tru Tech Doors USA Incorporated		Massaponax Creek, UT
VAR050991	Georgia Foam Incorporated		Deep Run
VAR051052	United Parcel Service – Fredericksburg		Deep Run, UT
VAR051090	General Motors Limited Liability Corp		Rappahannock River, UT
VAR050865	Tallant Industries Incorporated		Massaponax Creek
VAR051679	Superior Paving Corporation		Hazel Run, UT
VAR051969	Barker Steel Mid Atlantic LLC		Deep Run
VAR051885	Crossroad Yard Maintenance Facilities		Massaponax Creek
VAR051028	McLane Mid Atlantic		Falls Run & Little Falls
VAR050989	Printpack Incorporated		Deep Run
VAR051621	SMI Rebar Virginia		Massaponax Creek, UT
3-MAP007.97	DEQ Monitoring Station		Massaponax Creek

**13. Material Storage:**

TABLE 3 MATERIAL STORAGE		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Sodium Hypochlorite (liquid)	20 gallons	stored under cover in locked shed
Sodium bi-sulfite tablets	45 pounds	

**14. Site Inspection:** Performed by DEQ staff on 15 May 2008 and 20 July 2010. See **Attachment 4** for inspection summaries.

**15. Receiving Stream Water Quality and Water Quality Standards:**a. Ambient Water Quality Data

There is no ambient monitoring data available for Massaponax Creek, UT. The nearest monitoring stations are 3-MAP002.61 at Route 609 and ambient water quality monitoring station 3MAP007.97 at Route 1.

Downstream impairments are noted for Recreation Use due to exceedences of *E. coli* bacteria. The Tidal Freshwater Rappahannock River Bacteria Total Maximum Daily Load (TMDL) was developed and approved by the Environmental Protection Agency (EPA) on 5 May 2008. Even though the receiving stream was not specifically included in this TMDL, all upstream facilities were accounted for during TMDL development. This facility has a Wasteload Allocation (WLA) of 5.22E+10 cfu/year for *E. coli* bacteria.

In addition, downstream impairment for Aquatic Life Use for Massaponax Creek has also been noted due to excursions below the lower limit of the pH criterion range. The TMDL for this impairment is due in 2018.

The Rappahannock River, beginning at the confluence with Massaponax Creek and continuing downstream has been listed as impaired for Fish Consumption Use due to Polychlorinated Biphenyls (PCBs) found in fish tissue samples. The TMDL is due in 2016; however, it is staff's best professional judgement that this facility does not discharge the pollutant of concern.

The Wildlife Use is considered fully supporting.

b. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Massaponax Creek, UT, is located within Section 4 of the Rappahannock River Basin and classified as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

**Attachment 5** details other water quality criteria applicable to the receiving stream.

Ammonia :

The fresh water, aquatic life Water Quality Criteria for Ammonia is dependent on the instream temperature and pH. The 90<sup>th</sup> percentile temperature and pH values are utilized because they best represent the critical conditions of the receiving stream. However, the critical 30Q10 and 1Q10 flows of the receiving stream are 0.0 MGD. In cases such as this, staff may utilize default values of 8.0 S.U. for pH and 25° C for temperature per current agency guidance. See **Attachment 5**.

Metals Criteria :

The Water Quality Criteria for some metals are dependent on the receiving stream's hardness (expressed as mg/L calcium carbonate). The 7Q10 of the receiving stream is zero and no ambient data is available; therefore, effluent data for hardness can be used to determine the metals criteria.

The hardness-dependent metals criteria in **Attachment 5** are based on an effluent value of 62 mg/L CaCO<sub>3</sub>. This value is based on effluent monitoring conducted in the year 2000. It is staff's best professional judgement that this hardness value is still representative of the effluent since no changes have occurred at the plant or the community it services.

Bacteria Criteria:

The Virginia Water Quality Standards (9VAC25-260-170.A.) establishes the following criteria to protect primary contact recreational uses:

*E. coli* bacteria per 100 mL of water shall not exceed the following:

	Monthly Geometric Mean <sup>1</sup>
Freshwater <i>E. coli</i> (N/100 mL)	126

<sup>1</sup> Four or more samples taken during any calendar month

c. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Massaponax Creek, UT, is located within Section 4 of the Rappahannock River Basin. This section has not been designated with a special standard.

d. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on 5 October 2010 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Upland Sandpiper (song bird); Loggerhead Shrike (song bird); Bald Eagle; Green Floater (mussel) and Migrant Loggerhead Shrike (song bird). The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore protect the threatened and endangered species found near the discharge.

**16. Antidegradation (9VAC25-260-30):**

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on the critical 7Q10, 30Q10 and 1Q10 flows of 0.0 MGD; thus, the flow within the stream will be primarily effluent during these critical periods. The proposed limitations have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria that are applicable to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

**17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:**

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA s) are calculated. In this case since the critical flows 7Q10, 30Q10 and 1Q10 have been determined to be zero, the WLA s are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97<sup>th</sup> percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97<sup>th</sup> percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from Discharge Monitoring Reports (DMRs) for the last permit term has been reviewed and determined to be suitable for evaluation.

The following pollutants require a wasteload allocation analysis: Ammonia and Total Residual Chlorine.

b. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload Allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where:

- WLA = Wasteload allocation
- C<sub>o</sub> = In-stream water quality criteria
- Q<sub>e</sub> = Design flow
- Q<sub>s</sub> = Critical receiving stream flow  
(1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
- f = Decimal fraction of critical flow
- C<sub>s</sub> = Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 is considered to have a 7Q10, 30Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the  $C_o$ .

c. Effluent Limitations, Outfall 001 – Toxic Pollutants

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1). Ammonia as N:

DEQ guidance suggests using a sole data point of 9.0 mg/L to ensure the evaluation adequately addresses the potential for ammonia to be present in discharges containing domestic sewage. Utilizing the default pH and temperature values and the subsequent ammonia water quality criteria, staff determined that the current ammonia limit of 2.2 mg/L is warranted and continues to protect water quality. See **Attachment 6** for the ammonia limit derivation.

However, staff reviewed the effluent pH data from the past permit term to determine the distribution of data and the reasonable potential for the discharge to cause or contribute to a violation of ammonia criteria. It was determined that the 90<sup>th</sup> percentile for pH is in fact 8.4 S.U., significantly higher than the default value (**Attachment 7**).

The toxicity of ammonia is dependent on the pH of the effluent and/or receiving stream. Ammonia can exist as both "ionized ammonia" ( $\text{NH}_4$ ) and "un-ionized ammonia" ( $\text{NH}_3$ ). Research has shown that the un-ionized ammonia is the fraction that is toxic to aquatic life while the ionized ammonia has been found to have little or no toxic effect. Furthermore, it has been demonstrated that the un-ionized fraction increases correspondingly with rising pH values; thus, increasing potential toxicity and the basis for the above calculated ammonia limits.

Therefore, staff has proposed that a maximum pH limit of 8.0 S.U. be imposed to ensure that this discharge does not contribute to a violation of the ammonia criteria in the receiving stream or downstream of this facility. The assumption is that the ammonia constituents that remain, within the proposed pH limitations, would not be toxic to aquatic organisms since the ionized form would be the dominate fraction present.

2). Total Residual Chlorine:

Chlorine is used for disinfection and is potentially in the discharge. Staff calculated WLAs for TRC using current critical flows. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. A monthly average of 0.008 mg/L and a weekly average limit of 0.010 mg/L are proposed for this discharge (**Attachment 8**).

3). Metals/Organics:

Given the source of the wastewater coming to this treatment facility, it is staff's best professional judgement that metal limits are not warranted.

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to Dissolved Oxygen (D.O.), Biochemical Oxygen Demand-5 day ( $\text{BOD}_5$ ) and Total Suspended Solids (TSS) limitations are proposed.

The  $\text{BOD}_5$  and TSS limitations are based on the Federal Secondary Treatment Standards of at least 85% removal.

It is staff's practice to equate the Total Suspended Solids limits with the  $\text{BOD}_5$  limits since the two pollutants are closely related in terms of treatment of domestic sewage.

pH limitations proposed are more stringent than the current water quality criteria.

*E. coli* limitations are in accordance with the Water Quality Standards 9VAC25-260-170 and the Tidal Freshwater Rappahannock River Bacteria TMDL wasteload allocation.

e. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in the following table. Limits were established for BOD<sub>5</sub>, Total Suspended Solids, Ammonia, pH, Dissolved Oxygen, Total Residual Chlorine and *E. coli*.

The limit for Total Suspended Solids is based on Best Professional Judgement.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and then a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD<sub>5</sub> and TSS (or 65% for equivalent to secondary). These regulations set forth a minimum level of effluent quality attainable by secondary treatment and the achievement of 85% removal of these pollutants. During the last permit term, this facility conducted monitoring that indicated the minimum removal rate was being achieved.

**18. Antibacksliding:**

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

# VPDES PERMIT PROGRAM FACT SHEET

VA0068934  
PAGE 8 of 11

## 19. Effluent Limitations/Monitoring Requirements:

Design flow is 0.030 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D	Estimate
pH	2,3	NA	NA	6.0 S.U.	8.0 S.U.	1/D	Grab
BOD <sub>5</sub>	1	30 mg/L 3.4 kg/day	45 mg/L 5.1 kg/day	NA	NA	1/M	Grab
Total Suspended Solids (TSS)	1,2	30 mg/L 3.4 kg/day	45 mg/L 5.1 kg/day	NA	NA	1/M	Grab
Dissolved Oxygen (DO)	3	NA	NA	6.0 mg/L	NA	1/D	Grab
Ammonia, as N	3	2.2 mg/L	2.2 mg/L	NA	NA	1/M	Grab
<i>E. coli</i> (Geometric Mean) <sup>(a) (b)</sup>	3,5	126 n/100 mL	NA	NA	NA	1/W	Grab
Total Residual Chlorine (after contact tank)	2,3,4	NA	NA	1.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after dechlorination)	3	0.008 mg/L	0.010 mg/L	NA	NA	1/D	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements for Secondary Treatment
2. Best Professional Judgement
3. Water Quality Standards
4. DEQ Disinfection Guidance
5. TMDL Wasteload Allocation

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

S.U. = Standard units.

1/D = Once every day.

1/W = Once every week.

1/M = Once every month.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

<sup>(a)</sup> Samples shall be collected between the hours of 10 A.M. and 4 P.M.

<sup>(b)</sup> The permittee shall sample and submit *E. coli* results at the frequency of once every week for three (3) months.

If all reported results for *E. coli* do not exceed 126 n/100mL, reported as the geometric mean, the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect four (4) samples during one month within each quarterly monitoring period as defined below. The results shall be reported as the geometric mean.

The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period.

Should any of the quarterly monitoring results for *E. coli* exceed 126 n/100mL, reported as the geometric mean, the monitoring frequency shall revert to once per week for the remainder of the permit term.

**20. Other Permit Requirements:**

Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

These additional chlorine requirements are necessary per the Sewage Collection and Treatment Regulations at 9VAC25-70 and by the Water Quality Standards at 9VAC25-260-170. Minimum chlorine residual must be maintained at the exit of the chlorine contact tank to ensure adequate disinfection. No more than 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be < 1.0 mg/L with any TRC < 0.6 mg/L considered a system failure. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

**21. Other Special Conditions:**

- a. 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. The facility is a PVOTW.
- b. Indirect Dischargers. Required by VPDES Permit Regulation, 9VAC25-31-200 B.1. and B.2. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- c. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. On or before 1 June 2011, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- d. CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.
- e. Financial Assurance. Required by Code of Virginia §62.1-44.18:3 and the Board's Financial Assurance Regulation, 9VAC25-650-1, et seq. which requires owners and operators of PVOTWs with a design flow > 0.005 MGD but < 0.040 MGD and treating sewage from private residences to submit a closure plan and maintain adequate financial assurance in the event the facility ceases operations. The permitted facility is a PVOTW with a design flow of 0.030 MGD and treats sewage generated from private residences.
- f. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9VAC25-31-200.C., and Rules and Regulations for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.) requires licensure of operators. This facility requires a Class IV operator.
- g. Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet reliability Class II.
- h. Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.
- i. Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2., and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.

- j. Treatment Works Closure Plan. The State Water Control Law §62.1-44.15:1.1, makes it illegal for an owner to cease operation and fail to implement a closure plan when failure to implement the plan would result in harm to human health or the environment. This condition is used to notify the owner of the need for a closure plan where a facility is being replaced or is expected to close.
- k. TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.
22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.
23. **Changes to the Permit from the Previously Issued Permit:**
- a. Special Conditions:
- The CTC, CTO Requirement was included with this reissuance.
- b. Monitoring and Effluent Limitations:
- *E. coli* monitoring was increased to once every week (1/W) for a period of three (3) months to demonstrate compliance with the TMDL WLA.
  - Maximum pH of 8.0 S.U. is proposed with this reissuance.
  - Influent monitoring for BOD<sub>5</sub> was removed with this reissuance.
- c. Other:
- Permittee may request a reduction in sampling frequency for *E. coli* after successful demonstration period.
24. **Variances/Alternate Limits or Conditions:** Not Applicable
25. **Public Notice Information:**

First Public Notice Date: 11 January 2011                      Second Public Notice Date: 18 January 2011

Public Notice Information is required by 9VAC25-31-280.B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3873, Douglas.Frasier@deq.virginia.gov. See **Attachment 9** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

**26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):**

Downstream impairments were noted due to bacteria, pH and PCBs. This facility has been given a WLA of  $5.22\text{E}+10$  cfu/year for *E. coli* bacteria under the Tidal Freshwater Rappahannock River Bacteria TMDL.

The PCB and pH TMDLs are due in 2016 and 2018, respectively.

**27. Additional Comments:**

Previous Board Action(s): None.

Staff Comments: None.

Public Comment: No comments were received during the public notice.

EPA Checklist: The checklist can be found in **Attachment 10**.

# Fact Sheet Attachments

## Table of Contents

Glenwood MHC, LLC  
VA0068934  
2011 Reissuance

Attachment 1	Flow Frequency Determination
Attachment 2	Facility Schematic/Diagram
Attachment 3	Topographic Map
Attachment 4	Inspection Report Summaries
Attachment 5	Water Quality Criteria / Wasteload Allocations
Attachment 6	Ammonia Limitation Derivation
Attachment 7	Effluent pH Data
Attachment 8	Total Residual Chlorine Limitation Derivation
Attachment 9	Public Notice
Attachment 10	EPA Checklist

**MEMORANDUM**

**DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION**  
**Water Quality Assessments and Planning**  
629 E. Main Street      P.O. Box 10009      Richmond, Virginia 23240

**SUBJECT:** Flow Frequency Determination  
Glenwood Mobile Home Park - #VA0068934

**TO:** Lyle Anne Collier, NRO

**FROM:** Paul Herman, OWRM-WQAP *Paul*

**DATE:** September 26, 1994

**COPIES:** Ron Gregory, Charles Martin, Dale Phillips, Curt Wells,  
File



The Glenwood Mobile Home Park STP discharges to an unnamed tributary of the Massaponnax Creek near Leavells, VA. Flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The values at the discharge point were determined by inspection of the USGS Guinea and Spotsylvania Quadrangles topographical maps which shows the receiving stream as intermittent at the discharge point. The flow frequencies for intermittent streams are 0.0 cfs. The drainage area for the discharge site is 0.12 mi<sup>2</sup>. The intermittent stream drains to a swampy reach of Massaponnax Creek. The flow frequencies for swamps are 0.0 cfs. The drainage area of Massaponnax Creek at the Interstate 95 bridge is 21.36 mi<sup>2</sup>.

If you have any questions concerning this analysis, please let me know.

Influent

Barscreen

GLENWOOD MHP WWTF

Aeration Basin

Aerator

1. MLSS
2. RAS
3. Scum
4. WAS
5. Digester Supernate
6. Cl<sub>2</sub> Solution
7. Dechlorination Unit
8. Flow Measurement

Clarifier

Digester

Clarifier Discharge

8. Flow is measured by the use of a 45° V notch weir located at the end of the clarifier discharge Channel.

Lab

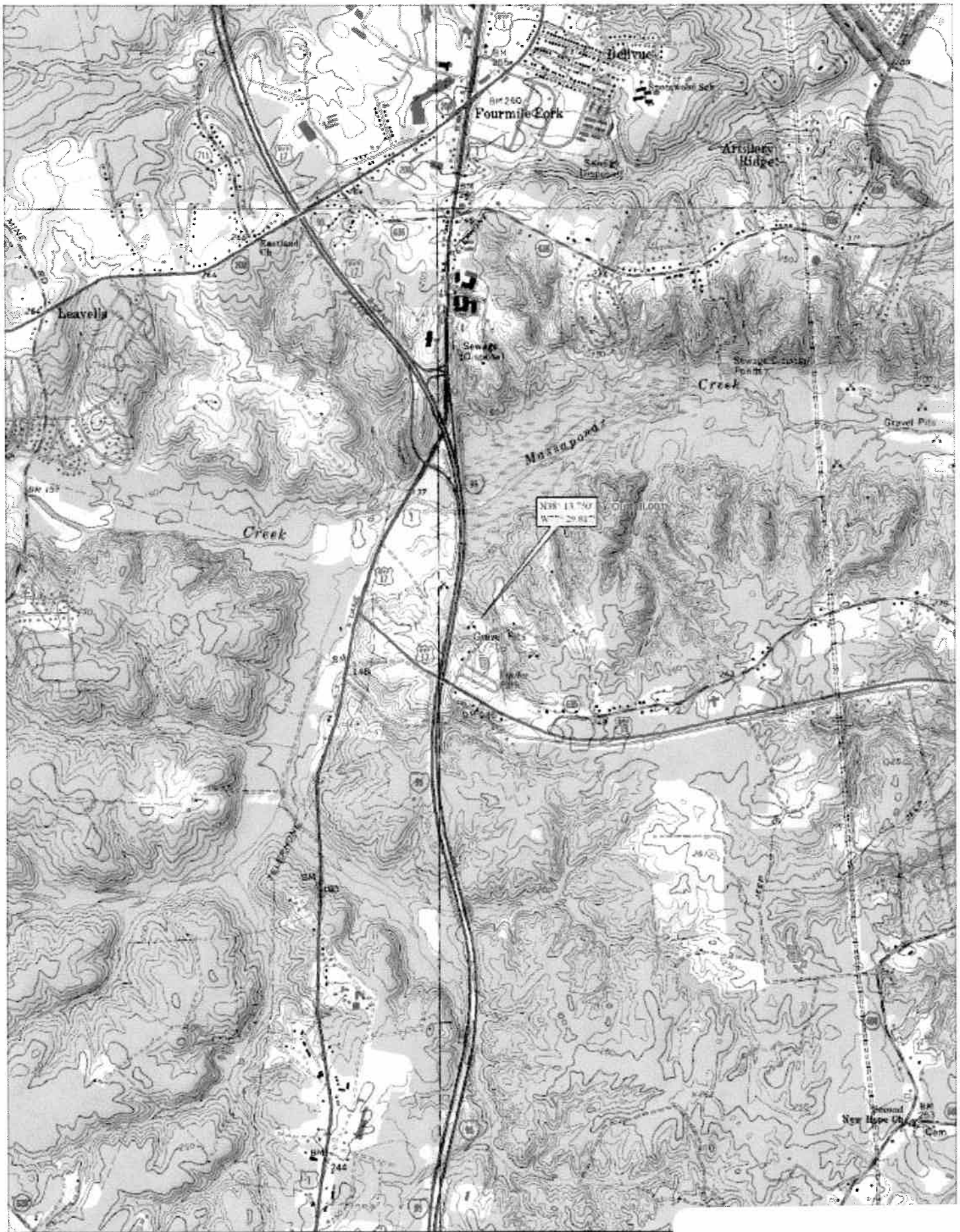
6

Cl<sub>2</sub>  
Contact  
Tank

Baffled  
Contact  
Tanks

Post Air

Attachment 2





# COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800 Fax (703) 583-3801

[www.deq.virginia.gov](http://www.deq.virginia.gov)

Preston Bryant  
Secretary of Natural  
Resources

David K. Paylor  
Director

Thomas A. Faha  
Regional Director

June 13, 2008

Mr. Matthew E. Raynor  
Environmental Director  
The Carlyle Group  
10006 Hammock Bend  
Chapel Hill, NC 27517

**Re: Glenwood Mobile Home Park STP Inspections, Permit VA0068934**

Dear Mr. Raynor:

Enclosed are copies of the technical and laboratory inspection reports generated from observations made while performing a Facility Technical Inspection at the Glenwood Mobile Home Park – Sewage Treatment Plant (STP) on May 15, 2008. The compliance/monitoring staff would like to thank Mr. Bucky Dabney for his time and assistance during the inspection.

Summaries for both the technical and laboratory inspections are enclosed. The facility had **Deficiencies** for the laboratory inspection in the Laboratory Records section. Please note the requirements and recommendations addressed in the technical summary. Please submit in writing a progress report to this office by **July 16, 2008** for the items addressed in the summary. Your response may be sent either via the US Postal Service or electronically, via E-mail. If you chose to send your response electronically, we recommend sending it as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm the facility is addressing the problems found and is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Regional Office at (703) 583-3909 or by E-mail at [wgharback@deq.virginia.gov](mailto:wgharback@deq.virginia.gov).

Sincerely,

Wilamena Harback  
Environmental Specialist II

cc: Permits / DMR File  
Compliance Manager  
Compliance Auditor  
Compliance Inspector  
OWCP – (SGStell) EPA Copy

**Summary of conditions from last inspection  
(January 21, 2000)**

<b>Problem identified</b>	<b>Corrected</b>	<b>Not Corrected</b>
1. The area around the outfall discharge pipe is fairly eroded. Steps should be taken to stabilize the area with gravel or riprap. <b>** This area could not safely be accessed due to the recent significant rainfall. DEQ will return at a later date.</b>	[ ]	[ ]
2. The clarifier had a large number of grease balls floating on the surface. The operator dips as much grease as possible out of the clarifier centerwell, but with no grease trap prior to the plant, grease will continue passing through the plant causing problems.	[ ]	[ X ]

---

**Summary of conditions for current inspection****Comments:**

- **The facility should be commended on the recent maintenance of the diffusers in the aeration basin and the new piping at the clarifier.**
- **The facility should be commended on the quick response to two separate toxic events since January 2008. They notified DEQ immediately and took proactive measures to attempt to re-educate the mobile home park residents about what should not go down the drain.**

**Recommendations for action:**

- **There was some sedimentation occurring after the clarifier but prior to the v-notch weir. The facility should evaluate a way to reduce sedimentation outside of the clarifier.**
- **The pipe leading from the chlorine contact tank to the de-chlorination tablet feeder has a large chunk out of it (it was apparently struck with a mower at some point). The facility should evaluate a way to fix this pipe.**
- **Due to recent heavy rainfall, getting to the discharge pipe was not completed during this inspection due to safety concerns. DEQ staff will return at a later time and assess the outfall and the receiving stream. It is recommended that the facility clear a better path to the outfall.**



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

### NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193  
(703) 583-3800 - Fax (703) 583-3821  
[www.deq.virginia.gov](http://www.deq.virginia.gov)

Douglas W. Domenech  
Secretary of Natural Resources

David K. Paylor  
Director

Thomas A. Faha  
Regional Director

August 24, 2010

Mr. Matthew E. Raynor  
The Carlyle Group  
10006 Hammock Bend  
Chapel Hill, NC 27517

Re: **Glenwood Mobile Home Park (MHP) - Sewage Treatment Plant (STP)**  
**Permit VA0068934**

Dear Mr. Raynor:

Attached is a copy of the Site Inspection Report generated from the Site Inspection conducted at the Glenwood MHP - STP on July 20, 2010.

DEQ was not able to review all the applicable records, as the facility was locked. **A written response concerning the items listed in the Required Corrective Action Section is due to this office by September 24, 2010.** Included in this response should be a plan of action and timetable for resolving these compliance issues, if they have not already been addressed. Your response may be sent either via the US Postal Service or electronically, via E-mail. DEQ recommends sending electronic responses as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm the facility is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Regional Office at (703) 583-3909 or by e-mail at [Rebecca.Johnson@deq.virginia.gov](mailto:Rebecca.Johnson@deq.virginia.gov).

Sincerely,


A handwritten signature in cursive script that reads "Rebecca J. Johnson".

Rebecca Johnson  
Environmental Specialist II

cc: Permits / DMR File  
Electronic Copy: Compliance Manager; Compliance Auditor  
OWCP - Steve Stell

Virginia Department of Environmental Quality  
Northern Regional Office

RECON INSPECTION REPORT

<b>FACILITY NAME:</b> Glenwood Mobile Home Park – Sewage Treatment Plant		<b>INSPECTION DATE:</b> July 20, 2010	
		<b>INSPECTOR</b> Rebecca Johnson	
<b>PERMIT No.:</b> VA0068934		<b>REPORT DATE:</b> August 24, 2010	
<b>TYPE OF FACILITY:</b> <input checked="" type="checkbox"/> Municipal <input type="checkbox"/> Major <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Minor <input type="checkbox"/> Federal <input type="checkbox"/> Small Minor <input type="checkbox"/> HP <input type="checkbox"/> LP	<b>TIME OF INSPECTION:</b>		Arrival 1150
			Departure 1203
	<b>TOTAL TIME SPENT (including prep &amp; travel)</b>		10 Hours
<b>PHOTOGRAPHS:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>UNANNOUNCED INSPECTION?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>REVIEWED BY / Date:</b>  8/24/10			
<b>PRESENT DURING INSPECTION:</b> Douglas Frasier, DEQ			

**INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS**

- Mr. Frasier and I arrived onsite at 1150. The weather was partly cloudy, humid and near 90 degrees.
- During the entire inspection there was no operator was onsite.
- The window to the lab building was broken.
- There were two uncovered containers full of debris at the manual bar screen unit. **Picture 1**
- There was a distinct old sludge odor at the aeration basin. The catwalk at the aeration basin appears to be deteriorating. **Picture 2**
- There were floating solids on the surface of the sedimentation basin. **Picture 3**
- Solids were leaving the sedimentation basin over the stop bar prior to the V-notch weir. **Picture 4**
- There were floating solids and grease in the circular chlorine injection structure. **Picture 5**
- The previous inspection on May 15, 2008 noted the pipe leading from the end of the chlorine contact tank to the dechlorination unit had a large chunk out of it (it was apparently struck with a mower at some point). This issue had not yet been resolved. The flow through the chlorine contact tank was milk chocolate in color. There was also foam and solids on the surface throughout the chlorine contact tank. **Picture 6**
- The facility was producing a turbid effluent discharge that was dark tan in color. A sludge bar was noted along the bank of the creek. The same distinct old sludge odor at the aeration basin was noted at the outfall. **Pictures 7, 8, and 9**
- Mr. Frasier and I observed foam and solids were present within 50 feet of the outfall. **Pictures 10, 11, and 12** (Due to the overgrowth of the outfall discharge point Mr. Frasier and I were only able to wade down the creek approximately 30 feet.)
- The photos from this site inspection can be located on the DEQ U drive @ Photos – Water Facilities – Glenwood MHP (VA006894) 07-20-2010.

### EFFLUENT FIELD DATA: Samples Not Collected

Flow	MGD	Dissolved Oxygen	mg/L	TRC (Contact Tank)	mg/L
pH	S.U.	Temperature	°C	TRC (Final Effluent)	mg/L
Was a Sampling Inspection conducted? <input type="checkbox"/> Yes (see Sampling Inspection Report) <input checked="" type="checkbox"/> No					

### CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall:	<input checked="" type="checkbox"/> Shore based	<input type="checkbox"/> Submerged	Diffuser?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. Are the outfall and supporting structures in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
3. Final Effluent (evidence of following problems):	<input checked="" type="checkbox"/> Sludge bar	<input type="checkbox"/> Grease			
	<input checked="" type="checkbox"/> Turbid effluent	<input checked="" type="checkbox"/> Visible foam	<input checked="" type="checkbox"/> Unusual color	<input type="checkbox"/> Oil sheen	
4. Is there a visible effluent plume in the receiving stream?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
5. Receiving stream:	<input checked="" type="checkbox"/> No observed problems	<input checked="" type="checkbox"/> Indication of problems (explain below)			
<u>Comments:</u>					
3. The final effluent was turbid, chocolate brown in color and there was foam along the base of the outfall discharge point.					
5. The downstream creek water was chocolate brown and there was a sludge bar along the bank of the creek. Foam and solids were present within 50 feet of the outfall.					

### REQUIRED CORRECTIVE ACTIONS:

1. Send a copy of the operators log <b>from June 1, 2010 to August 24, 2010</b> to the Department of Environmental Quality- Northern Regional Office by <b>September 24, 2010</b> .
2. Cover the debris containers at the manual bar screen unit.
3. Replace or repair the pipe leading from the chlorine contact tank to the dechlorination unit.

### NOTES and COMMENTS:

<p>The unusual discharge event was discovered on July 20, 2010 at 11:00 a.m. by the DEQ Staff and the owner reported the unauthorized discharge July 21, 2010 at 12:52 p.m. See attached document.</p> <p>There were two uncovered containers full of debris at the manual bar screen unit. As stated in the O&amp;M manual under <u>Solids Management</u> on page 38, "Coarse screenings removed from the treatment plant headworks shall be disposed of in a covered receptacle and the accumulated waste shall be managed as solids waste. The collected waste shall be routinely managed (placed in dumpster for disposal) so as not to create a nuisance condition." The facility must cover the debris containers at the headworks of the plant. The facility may want to increase the frequency of the disposal of solids in the debris containers at the manual bar screen unit so as not to create a nuisance condition.</p> <p>The pipe leading from the end of the chlorine contact tank to the dechlorination unit has a hole approximately 3-4 inches in diameter. As stated in the O&amp;M manual under <u>Maintenance Schedule</u> on page 27 "As required; repair piping or replace."</p>
---

# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name:

Glenwood MHC, LLC

Permit No.: VA0068934

Receiving Stream:

Massaponax Creek, UT

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information				Stream Flows				Mixing Information				Effluent Information			
Mean Hardness (as CaCO3) =	mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO3) =	62 mg/L								
90% Temperature (Annual) =	deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	100 %	90% Temp (Annual) =	25 deg C								
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	100 %	90% Temp (Wet season) =	deg C								
90% Maximum pH =	SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	100 %	90% Maximum pH =	8 SU								
10% Maximum pH =	SU	30Q10 (Wet season) =	0 MGD	- 30Q10 Mix =	100 %	10% Maximum pH =	SU								
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	0.03 MGD								
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD												
Trout Present Y/N? =	n														
Early Life Stages Present Y/N? =	y														

Parameter	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)
Acenaphthene	0	-	-	na	9.9E+02	-	na	9.9E+02	-	na	-	-	-	-	-	9.9E+02
Acrolein	0	-	-	na	9.3E+00	-	na	9.3E+00	-	na	-	-	-	-	-	9.3E+00
Acrylonitrile <sup>C</sup>	0	-	-	na	2.5E+00	-	na	2.5E+00	-	na	-	-	-	-	-	2.5E+00
Aldrin <sup>C</sup>	0	3.0E+00	-	na	5.0E-04	3.0E+00	na	5.0E-04	-	na	-	-	-	3.0E+00	-	5.0E-04
Ammonia-N (mg/l)	0	8.41E+00	1.24E+00	na	-	8.4E+00	1.2E+00	-	-	na	-	-	-	8.4E+00	1.2E+00	na
Ammonia-N (mg/l) (High Flow)	0	8.41E+00	2.43E+00	na	-	8.4E+00	2.4E+00	-	-	na	-	-	-	8.4E+00	2.4E+00	na
Anthracene	0	-	-	na	4.0E+04	-	na	4.0E+04	-	na	-	-	-	-	-	4.0E+04
Antimony	0	-	-	na	6.4E+02	-	na	6.4E+02	-	na	-	-	-	-	-	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	-	3.4E+02	1.5E+02	-	-	na	-	-	-	3.4E+02	1.5E+02	na
Barium	0	-	-	na	-	-	na	-	-	na	-	-	-	-	-	na
Benzene <sup>C</sup>	0	-	-	na	5.1E+02	-	na	5.1E+02	-	na	-	-	-	-	-	5.1E+02
Benzidine <sup>C</sup>	0	-	-	na	2.0E-03	-	na	2.0E-03	-	na	-	-	-	-	-	2.0E-03
Benzo (a) anthracene <sup>C</sup>	0	-	-	na	1.8E-01	-	na	1.8E-01	-	na	-	-	-	-	-	1.8E-01
Benzo (b) fluoranthene <sup>C</sup>	0	-	-	na	1.8E-01	-	na	1.8E-01	-	na	-	-	-	-	-	1.8E-01
Benzo (k) fluoranthene <sup>C</sup>	0	-	-	na	1.8E-01	-	na	1.8E-01	-	na	-	-	-	-	-	1.8E-01
Benzo (a) pyrene <sup>C</sup>	0	-	-	na	1.8E-01	-	na	1.8E-01	-	na	-	-	-	-	-	1.8E-01
Bis(2-Chloroethyl) Ether <sup>C</sup>	0	-	-	na	5.3E+00	-	na	5.3E+00	-	na	-	-	-	-	-	5.3E+00
Bis(2-Chloroisopropyl) Ether <sup>C</sup>	0	-	-	na	6.5E+04	-	na	6.5E+04	-	na	-	-	-	-	-	6.5E+04
Bis 2-Ethylhexyl Phthalate <sup>C</sup>	0	-	-	na	2.2E+01	-	na	2.2E+01	-	na	-	-	-	-	-	2.2E+01
Bromofom <sup>C</sup>	0	-	-	na	1.4E+03	-	na	1.4E+03	-	na	-	-	-	-	-	1.4E+03
Butylbenzylphthalate	0	-	-	na	1.9E+03	-	na	1.9E+03	-	na	-	-	-	-	-	1.9E+03
Cadmium	0	2.3E+00	7.8E-01	na	-	2.3E+00	7.8E-01	-	-	na	-	-	-	2.3E+00	7.8E-01	na
Carbon Tetrachloride <sup>C</sup>	0	-	-	na	1.6E+01	-	na	1.6E+01	-	na	-	-	-	-	-	1.6E+01
Chlordane <sup>C</sup>	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	-	-	-	-	2.4E+00	4.3E-03	na
Chloride	0	8.6E+05	2.3E+05	na	-	8.6E+05	2.3E+05	na	-	na	-	-	-	8.6E+05	2.3E+05	na
TRC	0	1.9E+01	1.1E+01	na	-	1.9E+01	1.1E+01	na	-	na	-	-	-	1.9E+01	1.1E+01	na
Chlorobenzene	0	-	-	na	1.6E+03	-	na	1.6E+03	-	na	-	-	-	-	-	1.6E+03

Parameter (µg/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Chlorodibromomethane <sup>c</sup>	0	-	-	na	1.3E+02	-	-	na	1.3E+02	-	-	-	-	-	-	na
Chloroform	0	-	-	na	1.1E+04	-	-	na	1.1E+04	-	-	-	-	-	-	na
2-Chloronaphthalene	0	-	-	na	1.6E+03	-	-	na	1.6E+03	-	-	-	-	-	-	na
2-Chlorophenol	0	-	-	na	1.5E+02	-	-	na	1.5E+02	-	-	-	-	-	-	na
Chlorpyrifos	0	8.3E-02	4.1E-02	na	-	8.3E-02	4.1E-02	na	-	-	-	-	-	8.3E-02	4.1E-02	na
Chromium III	0	3.9E+02	5.0E+01	na	-	3.9E+02	5.0E+01	na	-	-	-	-	-	3.9E+02	5.0E+01	na
Chromium VI	0	1.6E+01	1.1E+01	na	-	1.6E+01	1.1E+01	na	-	-	-	-	-	1.6E+01	1.1E+01	na
Chromium, Total	0	-	-	1.0E+02	-	-	-	na	-	-	-	-	-	-	-	na
Chrysene <sup>c</sup>	0	-	-	na	1.8E-02	-	-	na	1.8E-02	-	-	-	-	-	-	na
Copper	0	8.6E+00	6.0E+00	na	-	8.6E+00	6.0E+00	na	-	-	-	-	-	8.6E+00	6.0E+00	na
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	-	-	-	-	2.2E+01	5.2E+00	na
DDD <sup>c</sup>	0	-	-	na	3.1E-03	-	-	na	3.1E-03	-	-	-	-	-	-	na
DDE <sup>c</sup>	0	-	-	na	2.2E-03	-	-	na	2.2E-03	-	-	-	-	-	-	na
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	-	-	-	-	1.1E+00	1.0E-03	na
Demeton	0	-	1.0E-01	na	-	-	1.0E-01	na	-	-	-	-	-	-	1.0E-01	na
Diazinon	0	1.7E-01	1.7E-01	na	-	1.7E-01	1.7E-01	na	-	-	-	-	-	1.7E-01	1.7E-01	na
Dibenz(a,h)anthracene <sup>c</sup>	0	-	-	na	1.8E-01	-	-	na	1.8E-01	-	-	-	-	-	-	na
1,2-Dichlorobenzene	0	-	-	na	1.3E+03	-	-	na	1.3E+03	-	-	-	-	-	-	na
1,3-Dichlorobenzene	0	-	-	na	9.6E+02	-	-	na	9.6E+02	-	-	-	-	-	-	na
1,4-Dichlorobenzene	0	-	-	na	1.9E+02	-	-	na	1.9E+02	-	-	-	-	-	-	na
3,3-Dichlorobenzidine <sup>c</sup>	0	-	-	na	2.8E-01	-	-	na	2.8E-01	-	-	-	-	-	-	na
Dichlorobromomethane <sup>c</sup>	0	-	-	na	1.7E+02	-	-	na	1.7E+02	-	-	-	-	-	-	na
1,1-Dichloroethane <sup>c</sup>	0	-	-	na	3.7E+02	-	-	na	3.7E+02	-	-	-	-	-	-	na
1,1-Dichloroethylene	0	-	-	na	7.1E+03	-	-	na	7.1E+03	-	-	-	-	-	-	na
1,2-trans-dichloroethylene	0	-	-	na	1.0E+04	-	-	na	1.0E+04	-	-	-	-	-	-	na
2,4-Dichlorophenol	0	-	-	na	2.9E+02	-	-	na	2.9E+02	-	-	-	-	-	-	na
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	-	-	na	1.5E+02	-	-	na	1.5E+02	-	-	-	-	-	-	na
1,2-Dichloropropane <sup>c</sup>	0	-	-	na	2.1E+02	-	-	na	2.1E+02	-	-	-	-	-	-	na
1,3-Dichloropropene <sup>c</sup>	0	-	-	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	-	-	-	-	2.4E-01	5.6E-02	na
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	5.4E-04	-	-	na	5.4E-04	-	-	-	-	-	-	na
Diethyl Phthalate	0	-	-	na	4.4E+04	-	-	na	4.4E+04	-	-	-	-	-	-	na
2,4-Dimethylphenol	0	-	-	na	8.5E+02	-	-	na	8.5E+02	-	-	-	-	-	-	na
Dimethyl Phthalate	0	-	-	na	1.1E+06	-	-	na	1.1E+06	-	-	-	-	-	-	na
Di-n-Butyl Phthalate	0	-	-	na	4.5E+03	-	-	na	4.5E+03	-	-	-	-	-	-	na
2,4 Dinitrophenol	0	-	-	na	5.3E+03	-	-	na	5.3E+03	-	-	-	-	-	-	na
2-Methyl-4,6-Dinitrophenol	0	-	-	na	2.8E+02	-	-	na	2.8E+02	-	-	-	-	-	-	na
2,4-Dinitrotoluene <sup>c</sup>	0	-	-	na	3.4E+01	-	-	na	3.4E+01	-	-	-	-	-	-	na
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	-	-	na	5.1E-08	-	-	na	5.1E-08	-	-	-	-	-	-	na
1,2-Diphenylhydrazine <sup>c</sup>	0	-	-	na	2.0E+00	-	-	na	2.0E+00	-	-	-	-	-	-	na
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	-	-	-	-	2.2E-01	5.6E-02	na
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	-	-	-	-	2.2E-01	5.6E-02	na
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	-	-	2.2E-01	5.6E-02	-	-	-	-	-	-	2.2E-01	5.6E-02	-
Endosulfan Sulfate	0	-	-	na	8.9E+01	-	-	na	8.9E+01	-	-	-	-	-	-	na
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	-	-	-	-	8.6E-02	3.6E-02	na
Endrin Aldehyde	0	-	-	na	3.0E-01	-	-	na	3.0E-01	-	-	-	-	-	-	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Ethylbenzene	0	-	-	na	2.1E+03	-	-	na	2.1E+03	-	-	-	-	-	-	na
Fluoranthene	0	-	-	na	1.4E+02	-	-	na	1.4E+02	-	-	-	-	-	-	na
Fluorene	0	-	-	na	5.3E+03	-	-	na	5.3E+03	-	-	-	-	-	-	na
Foaming Agents	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	na
Guthion	0	-	1.0E-02	na	-	-	1.0E-02	na	-	-	-	-	-	-	1.0E-02	na
Heptachlor <sup>C</sup>	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	-	-	-	-	5.2E-01	3.8E-03	na
Heptachlor Epoxide <sup>C</sup>	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	-	-	-	-	5.2E-01	3.8E-03	na
Hexachlorobenzene <sup>C</sup>	0	-	-	na	2.9E-03	-	-	na	2.9E-03	-	-	-	-	-	-	na
Hexachlorobutadiene <sup>C</sup>	0	-	-	na	1.8E+02	-	-	na	1.8E+02	-	-	-	-	-	-	na
Hexachlorocyclohexane	0	-	-	na	4.9E-02	-	-	na	4.9E-02	-	-	-	-	-	-	na
Alpha-BHC <sup>C</sup>	0	-	-	na	1.7E-01	-	-	na	1.7E-01	-	-	-	-	-	-	na
Beta-BHC <sup>C</sup>	0	-	-	na	1.8E+00	9.5E-01	-	na	1.8E+00	-	-	-	-	9.5E-01	-	na
Hexachlorocyclohexane	0	-	-	na	1.1E+03	-	-	na	1.1E+03	-	-	-	-	-	-	na
Gamma-BHC <sup>C</sup> (Lindane)	0	-	-	na	3.3E+01	-	-	na	3.3E+01	-	-	-	-	-	-	na
Hexachlorocyclopentadiene	0	-	-	na	2.0E+00	-	2.0E+00	na	-	-	-	-	-	-	2.0E+00	na
Hexachloroethane <sup>C</sup>	0	-	-	na	1.8E-01	-	-	na	1.8E-01	-	-	-	-	-	-	na
Hydrogen Sulfide	0	-	-	na	9.6E+03	-	-	na	9.6E+03	-	-	-	-	-	-	na
Indeno (1,2,3-cd) pyrene <sup>C</sup>	0	-	-	na	0.0E+00	-	0.0E+00	na	-	-	-	-	-	-	0.0E+00	na
Iron	0	-	-	na	7.4E+00	6.5E+01	7.4E+00	na	-	-	-	-	-	6.5E+01	7.4E+00	na
Isophorone <sup>C</sup>	0	-	-	na	1.0E-01	-	1.0E-01	na	-	-	-	-	-	-	1.0E-01	na
Kepon	0	-	-	na	1.4E+00	-	1.4E+00	7.7E-01	-	-	-	-	-	1.4E+00	7.7E-01	na
Lead	0	6.5E+01	7.4E+00	na	1.5E+03	-	-	na	1.5E+03	-	-	-	-	-	-	na
Malathion	0	-	-	na	5.9E+03	-	-	na	5.9E+03	-	-	-	-	-	-	na
Manganese	0	-	-	na	3.0E-02	-	3.0E-02	na	-	-	-	-	-	-	3.0E-02	na
Mercury	0	1.4E+00	7.7E-01	-	0.0E+00	-	0.0E+00	na	-	-	-	-	-	-	0.0E+00	na
Methyl Bromide	0	-	-	na	4.6E+03	1.2E+02	1.4E+01	na	4.6E+03	-	-	-	-	1.2E+02	1.4E+01	na
Methylene Chloride <sup>C</sup>	0	-	-	na	6.9E+02	-	-	na	6.9E+02	-	-	-	-	-	-	na
Methoxychlor	0	-	-	na	3.0E+01	-	-	na	3.0E+01	-	-	-	-	-	-	na
Mirex	0	-	-	na	6.0E+01	-	-	na	6.0E+01	-	-	-	-	-	-	na
Nickel	0	1.2E+02	1.4E+01	na	5.1E+00	-	-	na	5.1E+00	-	-	-	-	-	-	na
Nitrate (as N)	0	-	-	na	6.6E+00	2.8E+01	6.6E+00	na	-	-	-	-	-	2.8E+01	6.6E+00	na
Nitrobenzene	0	-	-	na	1.3E-02	6.5E-02	1.3E-02	na	-	-	-	-	-	6.5E-02	1.3E-02	na
N-Nitrosodimethylamine <sup>C</sup>	0	-	-	na	6.4E-04	-	1.4E-02	na	6.4E-04	-	-	-	-	-	1.4E-02	na
N-Nitrosodiphenylamine <sup>C</sup>	0	-	-	na	3.0E+01	7.7E-03	5.9E-03	na	3.0E+01	-	-	-	-	7.7E-03	5.9E-03	na
N-Nitrosodiphenylamine <sup>C</sup>	0	-	-	na	8.8E+05	-	-	na	8.8E+05	-	-	-	-	-	-	na
N-Nitrosodi-n-propylamine <sup>C</sup>	0	-	-	na	4.0E+03	-	-	na	4.0E+03	-	-	-	-	-	-	na
Nonylphenol	0	2.8E+01	6.6E+00	-	-	-	-	na	-	-	-	-	-	-	-	na
Parathion	0	6.5E-02	1.3E-02	na	-	-	-	na	-	-	-	-	-	-	-	na
PCB Total <sup>C</sup>	0	-	-	na	6.4E-04	-	1.4E-02	na	6.4E-04	-	-	-	-	-	-	na
Pentachlorophenol <sup>C</sup>	0	7.7E-03	5.9E-03	na	3.0E+01	7.7E-03	5.9E-03	na	3.0E+01	-	-	-	-	7.7E-03	5.9E-03	na
Phenol	0	-	-	na	8.8E+05	-	-	na	8.8E+05	-	-	-	-	-	-	na
Pyrene	0	-	-	na	4.0E+03	-	-	na	4.0E+03	-	-	-	-	-	-	na
Radionuclides	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	na
Gross Alpha Activity (pCi/L)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	na
Beta and Photon Activity (mem/yr)	0	-	-	na	4.0E+00	-	-	na	4.0E+00	-	-	-	-	-	-	na
Radium 226 + 228 (pCi/L)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	na
Uranium (ug/l)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable <sup>C</sup>	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	-	-	-	-	-	-	-	-	2.0E+01	5.0E+00	na	4.2E+03
Silver	0	1.5E+00	-	na	-	1.5E+00	-	na	-	-	-	-	-	-	-	-	-	1.5E+00	-	na	-
Sulfate	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
1,1,2,2-Tetrachloroethane <sup>C</sup>	0	-	-	na	4.0E+01	-	-	na	4.0E+01	-	-	-	-	-	-	-	-	-	-	na	4.0E+01
Trichloroethylene <sup>C</sup>	0	-	-	na	3.3E+01	-	-	na	3.3E+01	-	-	-	-	-	-	-	-	-	-	na	3.3E+01
Thallium	0	-	-	na	4.7E-01	-	-	na	4.7E-01	-	-	-	-	-	-	-	-	-	-	na	4.7E-01
Toluene	0	-	-	na	6.0E+03	-	-	na	6.0E+03	-	-	-	-	-	-	-	-	-	-	na	6.0E+03
Total dissolved solids	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Toxaphene <sup>C</sup>	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	-	-	-	-	-	-	-	-	7.3E-01	2.0E-04	na	2.8E-03
Tributyltin	0	4.6E-01	7.2E-02	na	-	4.6E-01	7.2E-02	na	-	-	-	-	-	-	-	-	-	4.6E-01	7.2E-02	na	-
1,2,4-Trichlorobenzene	0	-	-	na	7.0E+01	-	-	na	7.0E+01	-	-	-	-	-	-	-	-	-	-	na	7.0E+01
1,1,2-Trichloroethane <sup>C</sup>	0	-	-	na	1.6E+02	-	-	na	1.6E+02	-	-	-	-	-	-	-	-	-	-	na	1.6E+02
Trichloroethylene <sup>C</sup>	0	-	-	na	3.0E+02	-	-	na	3.0E+02	-	-	-	-	-	-	-	-	-	-	na	3.0E+02
2,4,6-Trichlorophenol <sup>C</sup>	0	-	-	na	2.4E+01	-	-	na	2.4E+01	-	-	-	-	-	-	-	-	-	-	na	2.4E+01
2-(2,4,5-Trichlorophenoxy)propionic acid (Silvex)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Vinyl Chloride <sup>C</sup>	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Zinc	0	7.8E+01	7.9E+01	na	2.6E+04	7.8E+01	7.9E+01	na	2.6E+04	-	-	-	-	-	-	-	-	7.8E+01	7.9E+01	na	2.6E+04

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.  
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic  
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	4.7E-01
Chromium III	3.0E+01
Chromium VI	6.4E+00
Copper	3.4E+00
Iron	na
Lead	4.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	8.1E+00
Selenium	3.0E+00
Silver	6.1E-01
Zinc	3.1E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

12/14/2010 10:24:58 AM

Facility = Glenwood MHC, LLC

Chemical = Ammonia

Chronic averaging period = 30

WLAa = 8.4

WLAc = 1.2

Q.L. = 0.2

# samples/mo. = 1

# samples/wk. = 1

#### Summary of Statistics:

# observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

# < Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity

Maximum Daily Limit = 2.42120411209957

Average Weekly limit = 2.42120411209957

Average Monthly Limit = 2.42120411209957

The data are:

<b>Permit #:VA0068934</b>	Facility:Glenwood Mobile Home Park
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Rec'd	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX
12-Apr-2005	PH	NULL	*****	NULL	*****	6.3	6	NULL	*****	6.6
12-May-2005	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.8
13-Jun-2005	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.7
11-Jul-2005	PH	NULL	*****	NULL	*****	6.3	6	NULL	*****	6.5
11-Aug-2005	PH	NULL	*****	NULL	*****	6.3	6	NULL	*****	6.6
12-Sep-2005	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
11-Oct-2005	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.7
14-Nov-2005	PH	NULL	*****	NULL	*****	6.3	6	NULL	*****	6.7
12-Dec-2005	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.7
11-Jan-2006	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.7
13-Feb-2006	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
10-Mar-2006	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
10-Apr-2006	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
10-May-2006	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
12-Jun-2006	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
24-Jul-2006	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
11-Aug-2006	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
11-Sep-2006	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
11-Oct-2006	PH	NULL	*****	NULL	*****	6.5	6	NULL	*****	6.7
13-Nov-2006	PH	NULL	*****	NULL	*****	6.5	6	NULL	*****	6.6
11-Dec-2006	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.7
11-Jan-2007	PH	NULL	*****	NULL	*****	6.3	6	NULL	*****	6.6
13-Feb-2007	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
12-Mar-2007	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
01-Apr-2007	PH	NULL	*****	NULL	*****	6.5	6	NULL	*****	6.6
01-May-2007	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
01-Jun-2007	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
01-Jul-2007	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
01-Aug-2007	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
01-Sep-2007	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
01-Oct-2007	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
01-Nov-2007	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.5
01-Dec-2007	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.6
01-Jan-2008	PH	NULL	*****	NULL	*****	6.5	6	NULL	*****	6.6
01-Feb-2008	PH	NULL	*****	NULL	*****	6.3	6	NULL	*****	6.6
01-Mar-2008	PH	NULL	*****	NULL	*****	6.4	6	NULL	*****	6.5



10/5/2010 11:17:17 AM

Facility = Glenwood MHC, LLC

Chemical = Chlorine

Chronic averaging period = 4

WLAa = 0.019

WLAc = 0.011

Q.L. = 0.10

# samples/mo. = 30

# samples/wk. = 8

#### Summary of Statistics:

# observations = 1

Expected Value = .2

Variance = .0144

C.V. = 0.6

97th percentile daily values = .486683

97th percentile 4 day average = .332758

97th percentile 30 day average = .241210

# < Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity

Maximum Daily Limit = 1.60883226245855E-02

Average Weekly limit = 9.59676626920106E-03

Average Monthly Limit = 7.9737131838758E-03

The data are:

0.2

# Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Spotsylvania County, Virginia.

PUBLIC COMMENT PERIOD: January 12, 2011 to 5:00 p.m. on February 11, 2011

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Glenwood MHC, LLC  
10006 Hammock Bend, Chapel Hill, NC 27517  
VA0068934

NAME AND ADDRESS OF FACILITY: Glenwood MHC, LLC  
9755 Glenwood Drive, Fredericksburg, VA 22408

PROJECT DESCRIPTION: Glenwood MHC, LLC has applied for a reissuance of a permit for the private Glenwood MHC, LLC. The applicant proposes to release treated sewage wastewaters from residential areas at a rate of 0.030 million gallons per day into a water body. Sludge from the treatment process will be hauled to the Massaponax Wastewater Treatment Facility (VA0025658) for further treatment and final disposal. The facility proposes to release treated sewage in the Massaponax Creek, UT in Spotsylvania County in the Rappahannock watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, BOD, TSS, DO, Ammonia, E. coli and Chlorine.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by email, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier  
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193  
Phone: (703) 583-3873 email: Douglas.Frasier@deq.virginia.gov Fax: (703) 583-3821

Revised 2/2003

**State "Transmittal Checklist" to Assist in Targeting  
Municipal and Industrial Individual NPDES Draft Permits for Review**

**Part I. State Draft Permit Submission Checklist**

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Glenwood MHC, LLC
NPDES Permit Number:	VA0068934
Permit Writer Name:	Douglas Frasier
Date:	5 October 2010

Major [ ]

Minor [X]

Industrial [ ]

Municipal [X]

<b>I.A. Draft Permit Package Submittal Includes:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?			X
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

<b>I.B. Permit/Facility Characteristics</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Is this a new or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet <b>or</b> permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet <b>or</b> permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water? <b>DOWNSTREAM IMPAIRMENTS</b>	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

<b>I.B. Permit/Facility Characteristics – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?	X		
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?	X		
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

## Part II. NPDES Draft Permit Checklist

### Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			X
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		

<b>II.D. Water Quality-Based Effluent Limits – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

<b>II.E. Monitoring and Reporting Requirements</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		X	
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?		X	

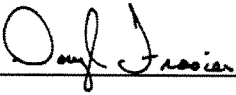
<b>II.F. Special Conditions</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?			X

<b>II.F. Special Conditions – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the “Nine Minimum Controls”?			X
b. Does the permit require development and implementation of a “Long Term Control Plan”?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the <b>permit</b> contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
<b>List of Standard Conditions – 40 CFR 122.41</b>			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

### Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Douglas Frasier</u>
Title	<u>VPDES Permit Writer, Senior II</u>
Signature	<u></u>
Date	<u>5 October 2010</u>